

MEETING SUMMARY

California Department of Water Resources

Independent Technical Panel for Demand Management Measures

November 5 and 6, 2015 | Meeting #24

Prepared by the Sacramento State University, Center for Collaborative Policy

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1. OVERVIEW OF NOVEMBER 5 & 6, 2015

The California Department of Water Resources (DWR) Independent Technical Panel (ITP) for Demand Management Measures met for their twenty-fourth meeting on November 5 and 6, 2015 to accomplish the following objectives:

- Review draft sections of the ITP's Proposed Final Report on Landscape Water Use
- Develop recommendations for next steps to prepare the ITP Final Report content for Landscape Water Use.

On October 1-2, 2015, ITP members met via webinar to review and discuss specific sections of the ITP's Final Report. Authoring teams took the feedback provided by fellow panel members and members of the public and conducted a subsequent set of revisions to the Final Report sections. These revised documents were again reviewed and discussed at the ITP's in-person meeting on November 5-6, 2015. At this meeting, the ITP made only administrative decisions on the next steps for each presented section. No formal decisions or recommendations were made.

Revised drafts of the ITP Final Report Sections discussed on November 5 and 6 are available on the DWR Water Calendar, here: <http://www.water.ca.gov/calendar/index.cfm?meeting=24989>. These documents do not contain red lines or mark-ups, though the ITP members may have chosen to verbally describe iterations considered when developing their proposals.

Per the direction of the ITP Planning Team, the meeting facilitator allocated a commensurate amount of time to discuss each section of the Final Report, and provided a block of time at the end of each day to continue discussing/refining sections as need. Sections were generally discussed in sequential order over the course of the two days. For purposes of meeting summary content accessibility, the discussions are presented sequentially here.

2. ACTION ITEMS

1. **ITP AUTHORIZING TEAMS** to revise their respective Final Report Sections in advance of December meeting.
2. **ITP MEMBERS** to keep a list of the terms they would like to include in the Final Report Glossary; submit terms to Center for Collaborative Policy (CCP) for compilation.
3. **ITP MEMBERS** to review MWELO definition of "cool season" and "warm season" turf grass to determine if these definitions are acceptable for use by the ITP and can be referenced in the Final Report.
4. **ITP and DWR** to convene *Metrics Workgroup* for purpose of identifying and verifying needed numeric and statistical references in the Final Report.
5. **ITP MEMBERS** in regard to Section 4: All ITP Members to consider how to narrow Program Requirements and submit suggestions to CCP staff. **CCP** to then compile suggestions, post to DWR website and submit to Section 4 Authoring Team.

6. **DWR** to determine current fiscal year funding for California Irrigation Management Information System (CIMIS) and if there is a local matching fund or fund partnership (including for items such as equipment, maintenance, staffing, etc.)
7. **DWR** to determine if most recent MWELo revisions are included in the C-27 Trade Exam and obtain specifics of their tri-annual exam update schedule and how information can be added to exam content. **DWR** to assess if Department of Consumer Affairs is subject to expedited actions based on the Drought Emergency Status proclaimed by the Governor in January 2014
8. **DWR** to provide ITP reasoning on why several of the ITP's suggested revisions to MWELo were not taken up by DWR
9. **VICKI LAKE** to provide ITP with a dollar amount estimate that would be considered reasonable for the CIMIS program. If possible, also provide ITP with a history of the CIMIS budget, and suggested amounts for on-going costs and costs for a one-time expansion
10. **VICKI LAKE** to circulate Model Water Efficient Landscape Ordinance (MWELo) Glossary of Terms to ITP Members via email.
11. **JULIE SAARE-EDMONDS** to inform Section 6, Recommendation 1 authoring team (Ed Osann) of any suggestions related to future revisions of MWELo she received during her recent statewide outreach endeavors.
12. **JULIE SAARE-EDMONDS** to research if there is a State Agriculture panel analogous to the ITP and also determine the current status of the Agriculture Stakeholder Committee (ASC) and the feasibility of CIMIS use and funding in a future ASC meeting.
13. **LISA MADDAUS** to expand on her suggested list of recommendations (bulleted list) in Section 10 and provide her suggestions to other members of the authoring team
14. **LISA MADDAUS and DAVE CEPPOS** to review the table recently prepared by Briana Seapy for Ed Osann and assess if that is a sufficient summary of the ITP's proposed updates to MWELo that were submitted in response to the Governor's Executive Order (EO) for inclusion in Section 2: ITP Organization and Process.
15. **LISA MADDAUS, PETER ESTOURNES and DAVE FUJINO** (Section 10 Authoring Team) to characterize the list of 18 recommendations into overarching topics and sub-topics
16. **JEFF STEPHENSON** to look in to areas that Agriculture Water Use Efficiency (AWUE) could focus on during "Phase 2" of their national research effort on opportunities for landscape water conservation to include in Section 10
17. **BRIANA SEAPY**, California Urban Water Conservation Council (CUWCC), to obtain 6-8 examples of landscape water audits for the ITP to review in relation to the development of Section 5, Recommendation 1.
18. **BRIANA SEAPY** to assist Ed Osann in revision Section 5, Recommendation 1
19. **BRIANA SEAPY** to review the California Urban Water Conservation Council's (CUWCC) records of AB 2717 and extract pieces that are relevant to provide updates to Section 8: Workforce.
20. **MEAGAN WYLIE** to poll ITP members for December, January, and February availability and confirm next meeting date(s) with the Planning Team as soon as possible.

3. WELCOME & OPENING REMARKS

Dave Ceppos, meeting facilitator from the Center for Collaborative Policy (CCP), California State University Sacramento, called the meeting to order and reviewed the agenda. He thanked the ITP for the tremendous amount of work contributed to the final report to date. He further explained that all work on the ITP Final Report sections completed by authoring teams has been consistent with Bagley-Keane legal requirements. No authoring team composition exceeded three persons, and no authoring teams have been created outside of the public ITP meetings.

Mr. Ceppos reviewed his suggested set of time for the Final Report section discussions on Day 1, and reminded participants that sections will be revised or advanced by general consensus only, not by formal decision. It was lastly noted that *Word* versions of the Report Sections posted as PDF files to the DWR website would be accessed during the meeting such that comments and revisions could be made real-time as required. These real-time edits were broadcast over the WebEx webinar platform for public members participating remotely.

4. DRAFT ITP FINAL REPORT SECTION REVIEW

A. Section 1: Introduction

Authoring Team: Dave Ceppos and Nicole Scanlan, CCP

*Lisa Maddaus volunteered to assist the authoring team in preparing the short narrative explaining why the ITP chose landscapes as its focus.

Introductory Remarks from Authoring Team Members

- Mr. Ceppos noted that much of the introductory language was taken from the first ITP formal report submitted in February 2014. The background speaks briefly to the history of the panel in order to frame their work effort to date.

ITP Discussion

- Can definitions be listed before the introductory section?
 - Yes. The final document will also include a Table of Contents and appendices.
- A suggestion was made to include in the appendix the spreadsheet of topics the ITP considered addressing in April/May 2014 before decided to address landscape water use, and also add a short narrative explaining *why* the ITP chose landscapes as its focus. The “why” portion can be extracted from past meeting summaries.
 - This spreadsheet should be uploaded to the ITP landing page on the DWR website as well.
 - The seven-point framework is also referenced in Section 2.

- This framing piece is intended to show why landscape water use is important to address. Including it here helps to tee up the various proposals and identify the ITP's overarching goals.
- Mr. Osann provided the meeting facilitator with several written edits to consider. Due to time constraints, he was unable to verbally describe his suggested language revisions during the meeting.

B. Section 2: ITP Organization and Process

Authoring Team: Dave Ceppos and Nicole Scanlan, CCP

Introductory Remarks from Authoring Team Members

- Mr. Ceppos commented that the assumption when drafting this section was the the ITP will complete work on landscape water use by February in order to submit their recommendations in advance of the next Legislative cycle. The authoring team was also aiming for brevity when describing work done on the Model Water Efficient Landscape Ordinance (MWELo), though this section could be expanded upon.

ITP Discussion

- The documentation the ITP submitted regarding MWELo updates in response to the EO should be included in the appendices.
 - As a point of clarification, the ITP compiled various documents, but information was most often collected by DWR at ITP meetings and promptly incorporated into the ITP's recommendations due to the immediacy of the work in spring 2015.
- What is not yet provided in the narrative is the point that the EO had not come up when the ITP began its discussions about MWELo updates. In reality, had it not been for the EO, recommended updates to MWELo would have been included as its own section in the Final Report.
 - Another approach would be to develop a simple spreadsheet where in one column the MWELo requirement is listed, and in the adjacent column the ITP's recommended updates are listed.
 - **ACTION ITEM: LISA MADDAUS and DAVE CEPPOS** to review the table recently prepared by Briana Seapy for Ed Osann and assess if that is a sufficient summary of the ITP's proposed updates to MWELo that were submitted in response to the Governor's EO for inclusion in Section 2: ITP Organization and Process.
- It was suggested that the timelines are formatted in a bulleted list.
- The dates referenced throughout the section will need to be confirmed and/or updated.

C. Section 3: Vision Statement

Authoring Team: Ed Osann, Jeff Stephenson, Peter Estournes

Proposed Title: Achieving Sustainable Urban Landscapes Throughout California

Introductory Remarks from Authoring Team Members

- Mr. Stephenson explained that the Vision Statement was revised to incorporate ITP and public feedback received in October.
- Mr. Osann commented that he would like to include a chart demonstrating summer peaking of water use due to landscape irrigation, similar to the chart he presented to the panel in February of this year.
- The Authoring Team would like refine the number allocated to the various savings strategies discussion on page 2 of the section proposal.
 - DWR may be able to assist with this type of data research.

ITP Discussion

- The following revisions were recommended by various ITP members:
 1. Line 3: Delete term “fully”
 2. Paragraph 3: Delete “ground covers and other”
 3. Paragraph 4: Replace term “burgeoning” with “growing”
 4. Paragraph 4: Replace term “cash for grass” with “turf replacement”
 5. Paragraph 5: Reconsider use of term “fickle” and perhaps replace with synonym
 6. Paragraph 5, last sentence: Replace “And, for many...” with “Ideally, for many...”
 7. Paragraph 7, second sentence: Consider rephrasing to “The ITP recommends a *goal of reducing* potable water...”
 8. Paragraph 8: Delete term “publically supplied”
 9. Paragraph 8: Suggest to insert footnote explaining the term “watershed approach” and/or reference *The New Normal* definition here
 10. Paragraph 9: Suggest new term for phrase “Carrots, sticks, and...”
- Regarding recommended change #2, one member of the authoring team noted that the term “ground covers” was kept in the draft to highlight that there are water-wise alternatives to maintaining a horizontal horizon of the landscape (not only gravel). A suggested alternative was use of the phrase “attractive water-wise ground covers and plants.”
- Regarding recommended change #7, the authoring teams may want to revisit the use of this phrase once all of the recommendations have been finalized. The Vision Statement should be reconciled with the product of the Final Report.
- Regarding recommended change #8, a concern was raised that if the Vision Statement is focused on publically supplied potable water (page 2 of the section proposal) the ITP is inadvertently excluding residents who own a private well.
 - There is an embedded issue with a person installing a personal treatment facility on their land, the putting treated that began as public water back into their groundwater well.

- Julie Saare-Edmonds, DWR, explained that the new MWELO regulations do not specifically state if well water is considered a publically shared resource.
- The ITP's recommendations are intended to apply to all water users, not only one sector of water users. Furthermore, the Vision Statement is intended to encourage residents and business owners to shift habits from using potable water to non-potable water on landscapes.
- The term potable water should be defined
- Regarding recommended change #9, one member commented that the Vision Statement is an opportunity to define the watershed approach.
- **ACTION ITEM: ITP MEMBERS** to keep a list of the terms they would like to include in the Final Report Glossary; submit terms to Center for Collaborative Policy (CCP) for compilation. (e.g. potable water, watershed approach, etc.)
- **ACTION ITEM: VICKI LAKE** to circulate MWELO Glossary of Terms to ITP Members via email.
- **ACTION ITEM: ITP and DWR** to convene *Metrics Workgroup* for purpose of identifying and verifying needed numeric and statistical references in the Final Report.

D. Section 4: Voluntary Turf Replacement

Authoring Team: Jeff Stephenson and William Granger

Introductory Remarks from Authoring Team Members

- Mr. Stephenson noted that the authoring team discussed the opportunity to utilize the partnership of nongovernmental organizations (NGOs) for voluntary turf replacement programs.
- Mr. Granger commented that the Recommended Action was revised to provide an incentive in the form of a tax credit rather than a rebate. Providing rebates on an agency by agency basis would be cumbersome and not cost sustainable. A tax credit is easier to administer and out make an incentive available statewide.

ITP Discussion

- The percentages of landscape water use need to be verified and made consistent throughout the Final Report, including reference in the Section 4 background statement.
- One member inquired to the purpose of setting a minimum square footage for turf replacement if the recommended action is now a tax credit.
 - Mr. Stephenson noted that there must be a baseline established where it is cost effective for the state to process the tax credits (e.g. administrative expenses).
 - Vick Lake, DWR, noted that currently is no minimum to qualify for a tax credit, but the *maximum* is 1,000 square feet.
 - It was then suggested to reduce the minimum area to 250 square feet.

- It was suggested to delete the all uses of the classifier “cool season” turf and replace with “all” turf, as the vast majority of homeowners will not know the difference in turf types.
 - Residents overwater both cool season and warm season turf equally, so the program should simple be for turf conversion.
 - If it is determined that the term “cool season turf” will be deleted, Section 3 will also have to updated to reflect this change.
 - One suggestion was to include an acknowledgement in the introductory section that the turf industry experts are currently working to develop low-water use grasses and the emerging technology with grasses, but the intent of this recommendation is to change long-established over-water habits of turf grass. As the market place changes, the seed suppliers will begin to market low-water turf.
 - **ACTION ITEM: ITP MEMBERS** to review MWELo definition of “cool season” and “warm season” turf grass to determine if these definitions are acceptable for use by the ITP and can be referenced in the Final Report.
- The use of the term “residential yards” needs to be defined. It is unclear on if this is front yard only, or front and back yards together.
- The terms “water budget” and “compost amendment” need to simplified and/or defined for understanding by the average homeowner.
- Disadvantaged communities tend to deficit irrigate. There should be an added advantage/credit for disadvantaged communities in this regard.
- The recommendation should convey the tax credit is a one-time only benefit. Subsequent owners should not be allowed to requalify for tax credits on the same property. Rather, the credit should follow the house.
 - The details of a tax credit bill would be determined by the bill drafters and public officials. They will look out for ways to prevent double dipping, etc. The ITP should focus on elements of the proposal that are most important for meeting its objectives.
 - There should be enough specifics in this proposal such that a) it is deemed a viable proposal and b) the elements that are most important to meeting the objectives are adequately described.
- It was suggested to make the timeline for implementation shorter, with a goal of 2020.
 - This would be accomplished via legislation
 - A shorter timeframe would encourage action. Administratively, implementing a tax credit program would not be overly challenging.
- San Diego County Water Authority currently implements a credit program. They do not have to go inspect and sign-off that a customer completed turf replacement. However, if the customer is audited, they must prove the replacement was legitimate.
- It was suggested that after a statewide tax credit program passes legislation, five years for implementation would be a sufficient window. If the program only runs for three years, less water savings may be seen from this proposal.

- One member prefers a longer time frame. He further suggested one way to mitigate the cost of a longer implementation period is to step down the tax credits each year. Therefore, homeowners would have more incentive to move quickly.
- It may prove challenging to see this recommendation successfully administered in communities where there is not currently an established turf replacement or landscape auditing program. To account for this, the list of requirements could be simplified. The authors were encouraged to focus on the most important criteria for eligibility.
- It could be beneficial to include website links to online resources where homeowners can access additional information.
- It was recommended to have homeowners provide receipts for purchase of water saving system components, such as rain barrels, gray water systems, etc.
 - The challenge is to develop effective requirements without becoming too administratively burdensome for DWR or other staff who process claims.
 - **Ms. Lake:** DWR currently requires *before and after* photographs of water conservation projects and a copy of their water bill for rebate programs.
- **ACTION ITEM:** ITP MEMBERS in regard to Section 4: All ITP Members to consider how to narrow Program Requirements and submit suggestions to CCP staff. CCP to then compile suggestions, post to DWR website and submit to Section 4 Authoring Team.

E. Section 5: Required Improvements in Existing Landscapes

Recommendation #1: Single-Family Residential Properties

Authoring Team: Ed Osann, Jeff Stephenson* and Peter Estournes*

*Note: Jeff Stephenson and Peter Estournes joined the authoring team at this meeting.

Introductory Remarks from Authoring Team Members

- Mr. Osann commented that this initial draft proposal addresses the great majority of landscape water use in the State, which is by single family residences. It is intended to develop minimal requirements of existing residential landscapes, and strategies for implementing them on a 20-year period. There are fewer options for addressing the retrofit of existing landscapes than for new construction. In its recommendation here, the ITP should consider:
 - what is practicable and reasonable;
 - what is understandable to the public;
 - how to maintain affordability;
 - the pace at which landscape transition can take place; and
 - the practicality of enforcing whatever standards are implemented.
- The effort of the ITP is best focused on the essential aspects of this issue that can/should be addressed to accomplished the goals outlined in the Vision Statement. Mr. Osann would like open ITP discussion on:

- what improvements to existing landscapes are reasonable to expect;
- what is the pace and mechanism for implementation; and
- how would new standards get applied to existing housing stocks over a 20-year period to sufficiently achieve the level of water savings the ITP deems desirable.
- If trends in changing landscape design (associated with lower water use) are more predictable to consumers, the transitions will be more valuable.
- Page 2 suggests both a performance path and a prescriptive path for meeting these requirements. The performance path is based on DWR data from years ago. If more current data is available, this path should be adjusted. The overall goal is to achieve a 20-25% reduction in water use that would be validated with MWELO requirements. The prescriptive path lists five specific criteria that can be readily validated and should yield significant water savings while providing flexibility in landscape design.

ITP Discussion

- The real estate industry is very influential, and they may not be supportive of this particular recommendation. Perhaps some of the components of the recommendation can be absorbed by other recommendations (e.g. phasing out of underperforming sprinkler heads).
- Regarding the suggested performance path, some type of inspection must occur. New homebuyers are too often not informed about poor performing irrigation systems because home inspectors are typically not educated in this area. Perhaps a report can be included in the initial home inspection that states if the home's landscape meets California standards, and if not, provides a list of improvements that could be completed. These improvements could then be negotiated into the cost of the home.
 - The goal with this recommendation is not to only have an inspection, but to provide an audit that would establish the water use performance (or water budget) of the landscape. As currently drafted, the audit would occur *after* the seller or purchaser has made improvements to the landscape to comply with water use limitations. It is intended to be analogous to the application of MWELO on new landscapes where maximum water allowance is driven by the requirements of the Ordinance, and a performance audit occurs after construction. This proposal is attempting to accommodate people who have already invested in upgrades to their landscapes.
- Each landscape can be so personalized that drafting something blanket could result in very complex implementation measures.
 - Yes, approaching existing landscapes will undoubtedly present complicating factors. One response is then to provide flexibility in the approach (or performance path) for achieving reasonably anticipated water savings that are verifiable. Under the MWELO construct, there would be a point in time where a landscape must meet water savings criteria. Alternatively, if the ITP does believe that documentation on retrofitted landscapes should be required, then perhaps a simplified check-list could be submitted. Again, this is a draft proposal and the

concept does not have to remain in the recommendation is the ITP is not agreeable to it.

- Inspection of retrofitted landscapes would most likely require a landscape professional to provide recommendations on how to meet a water budget. And after the sale of a new home, a professional would still be needed for reprogramming of smart controllers even if no immediate work will be completed on a landscape. Irrigation management is key, and this issue ties back to homeowner education and training.
 - This reinforces some points made earlier; there are issues with hardware, education, workforce, cost, price rate structures, and social norms. That is why the Final Report is multifaceted, wherein the ITP recognized that no one recommendations will accomplish water savings for an issue that is so complex.
- One member commented that he sees an important opportunity with this recommendation, but as currently drafted it may be too detailed or onerous. There may be an alternative way to educate the home buyer, for example via the use of a disclosure statement wherein a high-level audit of the irrigation system would be provided prior to purchasing the house. This might help address concerns about the costs of fixing irrigation systems being so expensive it impacts the sale of the home.
 - While these types of inspections are often optional for the buyer, if they did choose to complete a landscape/irrigation inspection they could then request a credit for \$X knowing they would have to fix the system after making the purchase.
 - One member noted that this idea has foundational value, but noted that inspectors are often people the realtor recommends, and those individuals do not usually have outdoor expertise. Thus, this is an opportunity to include education for relators, inspectors and home buyers embedded within reasonable regulations. The authoring team should consider ways to draft this recommendation that would gain approval of the Realtor Lobby.
 - A third member agreed that concept of an irrigation system inspection for home sales is a good proposal.
 - There is also the possibility that the act of requiring an inspection of this nature would create a dialogue that does not yet exist among home buyers.
 - Furthermore, if the home is sold again after irrigation system and landscape improvements are made, knowledge of this could increase the selling value of the home.
 - There is data that demonstrated that well-done high efficiency landscapes can increase property value by 10-13%.
 - **Public Comment:** Recent data indicates that people are maintaining their homes for up to 22 years. Before the economic downturn, people would only keep homes for 6-10 years on average.
- On an existing landscape site, the most impactful change that can be made to result in ample water savings is to create a water budget and a watering schedule. Other actions such as equipment change-out, conservation pricing, and education will also contribute to water savings.

- Regarding the concept of a home landscape inspection: the consumer does deserve to know what they are purchasing when buying a new home. The realtors should do their due diligence with the outside of the home as well as the inside. It is important the ITP address this. Furthermore, it is this member's opinion that providing homeowners the option to landscape to MWEL or with a limitation of 25% turf is too complicated. This recommendation should be refocused on inspections and disclosures, and possibly ways to incentivize disclosures.
- An estimated 400,000 existing homes will change ownership in the next 20 years. This is around 80% of the housing stock. The ITP must address this percentage to see the water savings goal by 2035.
- What is currently preventing a new homebuyer from having the landscape irrigation inspected already?
 - Simply, because buying a home is overwhelming and a check for landscape irrigation is not on the list. So the vast majority of home buyers do not even think about taking this action.
- Another member shared his support for the inclusion of a landscape irrigation inspection process, citing the fourth year of the drought and the increase of awareness in water conservation by the general populous. The inspection process will also be a valuable educational tool. He further encouraged the long-term investment in trees.
- Is there a standard format for a landscape audit report of this nature, intelligible for a lay consumer, that the ITP could use as template for its purposes here?
 - Mr. Estournes's company conducts several of these audits per year for his company. Occasionally they will prepare post-audit reports and provide an estimated budget for suggested repairs. Most people who are offered low-cost repairs will opt to complete them. They also leave the customer a drought watering schedule and a schedule for when drought conditions are lifted.
 - The San Diego County Water Authority conducts 1,500-2,000 voluntary audits per year. Their customers then receive a simplified report that lists the items that need to be fixed. However, they have no authority to enforce the fixes, they are only recommendations. The Water Authority can also conduct follow-up inspections to see if improvements have resulted in water savings, but they must be invited back by the customer to access the property again.
- One member summarized where the conversation has gone thus far: Five ITP members have indicated that a disclosure issued before the purchase of an existing home would be useful and helpful. The inspector would check all major mechanical systems of the irrigation, and provide a list of what needs to be fixed. The inspection should also include a consumer education component, and leave the home buyer with a watering schedule. Inspection reports should be regularized, understandable, and present actionable items.
 - **ACTION ITEM:** Briana Seapy, California Urban Water Conservation Council (CUWCC), to obtain 6-8 examples of landscape water audits for the ITP to review in relation to the development of Section 5, Recommendation 1.

- The California Association of Realtors comment letter (received November 5, 2015) points to SB407 as a path for achieving water savings. It establishes a state law that requires inefficient plumbing to be removed, however there is no enforcement mechanism. This alone has not proven sufficient to achieve water savings.
 - This idea may receive some pushback from realtors initially, but that is not reason enough for the ITP *not* to develop this recommendation.
- Is there a possibility of targeting big water users or the homes with the most water savings potential first for this suggested program, with the eventuality of providing a disclosure to all or most properties statewide?
 - Currently the San Diego County Water Authority does not have permission to go onto properties to inform owners they are high water users. The audits they conduct are all on a voluntary basis. Water agencies are trying to move away from developing prescriptive best management practices (BMPs) for homeowners.
 - This proposal would not be an obligation to the water supplier, but would rather be tied to the property itself.
- Home renters should also be acknowledged. Most often the water bills are the responsibility of the renter, not the owner. Thus, even if the home owner is provided with a watering schedule, this information may not get translated to the renter. Perhaps this can be addressed.
- Next Steps: Mr. Stephenson will be added to the authoring team. This proposal will be revised by the authoring team to reflect the conversation by the ITP. Mr. Estournes will assist the authoring team in drafting language regarding qualifications necessary for those hired to conduct the inspections and complete the audits.
- **ACTION ITEM: BRIANA SEAPY** to assist Ed Osann in revisions to Section 5 Recommendation 1

F. Section 5: Required Improvements in Existing Landscapes

Recommendation #2: Multifamily and Commercial/Industrial Properties

Authoring Team: Peter Estournes, William Granger* and Penny Falcon*

*Note: William Granger and Penny Falcon joined the authoring team at this meeting. The draft Section 5, Recommendation 2 document reviewed and discussed below was drafted independently by Mr. Estournes.

Introductory Remarks from Authoring Team Members

- Mr. Estournes explained that the intent of the proposal is to determine mechanisms for commercial and multifamily housing units throughout the State to report irrigation use on a regular/annual basis. This proposal is less regulatory and more collaborative in nature. It will also allow for the ability to begin collecting data sets on water used by this sector.

ITP Discussion

- The reference of “60% of current urban water use...” must be verified by the Metrics Work Group and updated to match other references throughout the Final Report.
- One member inquired to the fraction of these properties that currently have dedicated meters.
 - It is estimated that nearly all units built within the last 20 years have dedicated meters. Previously, nearly no commercial or multiunit housing properties had meters installed. Therefore, about 10-20% of existing properties currently have landscape meters.
- This can be thought of as analogous to a smog check for irrigation systems. Perhaps an annual reporting is too excessive, and more reasonable would be a five-year reporting rotation.
 - When landscapers work on a site, they usually notate and file all of the water use information on a reporting form that already exists. Therefore, annual reporting would not require additional work. These reports are considered a tool for collaboration between the water provider, the property itself, and the person in charge of the irrigation system.
- If annual reporting were required, who would receive the report?
 - The governing water provider would likely receive the report, and they may choose to also work collaboratively with DWR and CUWCC. The process on how this would happen would need to be determined.
 - If the water provider reviewed a submitted report and identified a water waste issue, they would then need to respond to the customer indicating a fix was necessary.
 - This procedure would be similar to the voluntary water audits conducted by the San Diego County Water Authority. The audits are performed in house (e.g. by the landscape provider), not by the water agency.
- The proposal should expand upon the role of the CUWCC in its narrative.
- During the last severe drought, the State Water Resources Control Board (SWRCB) issued a ban on watering commercial turf.
- UC Davis currently involved in a project with DWR to oversee 30 existing landscapes throughout the State in six different regions. At the launch of the project 4.5 years ago, these landscapes were not operating under MWELO requirements or performing per a water budget. UC Davis partnered with local water agencies to provide audits of these landscapes and develop water budgets and management practices such that they were operating with an Evapotranspiration Adjustment Factor (ETAF) of 0.7. The majority of these landscapes are not performing at 0.7, and the ones performing around 0.4 do contain dead plant material.
- If commercial and multifamily properties are underperforming, how will the ITP’s recommendations help get them to where they should be? How will the ITP identify the proper BMPs and then institutionalize these BMPs?

- When one is required to report on an issue, that in itself generates awareness. And when the report is scrutinized by another party, there is more incentive to change.
- A process for meeting the prescribed water budget would have to be provided to the property owner.
- If MWELo requirements were the basis for water budgets for existing developments, the processes could be framed as moving toward statewide water sustainability.
- This recommendation could be drafted in a way that any landscape person with a maintenance contract could file the report annually. One additional requirement might be that the report is countersigned by the property owner.
 - The larger consideration then becomes is this an enabling measure that would allow for more efficiency in landscape programs and resulting water conservation.
- Annual reports could put a requirement on all water agencies to hire new staff to review reports and/or restructure programs. If this measure moves forward, all reporting should be by electronic submission only, hosted on the DWR website.
 - DWR is currently working on developing an online data base for collection of information on a water supplier level.
- Is there a similar report already in use that could be repurposed for this recommendation?
 - California Landscape Contractors Association (CLCA) might be able to produce a form via their water certification program.
- One member noted it would be preferable for the entity collecting the water bill to manage respective water budgets for property owners.
 - Another member offered the perspective that it could be challenging for a wholesale water agency to conduct a regional audit program. Some of the smaller retail agencies may not have staff enough to support this.
 - One idea suggested was to require reporting to agencies with 1,000 or more connections.
- Ms. Maddaus has been exploring this topic on her own separate initiative, and has recently emailed a colleague about obtaining an example reporting form. This program may be similar to the *Water Sense* form for commercially managed properties, and a type of bottom-up approach to water management.
 - The Environmental Protection Agency (EPA) portfolio manager might also have a report to reference.
- As all recommendations in the ITP Final Report should generate water savings, if there is no enforcement mechanism or mandate connected with this reporting requirement, the ultimate goal of water savings may not be realized.
- A proposal is needed in this space. Water suppliers on the ITP panel should consider further how to structure this reporting requirement to provide actionable information.
- This requirement should apply to all those providing landscape service for pay, not only those with dedicated landscape meters.

- Mr. Granger and Ms. Maddaus will join Mr. Estournes on the authoring team, and continue to develop this proposal in advance of the next meeting.

G. Section 5: Required Improvements in Existing Landscapes

Recommendation #3: Publically Owned Facilities

Authoring Team: Penny Falcon

This discussion was tabled as author Penny Falcon was ill and unable to attend Day 2 of the ITP meeting.

H. Section 6: New Landscapes – Smart from the Start

Recommendation #1: Strengthening 2015 MWELO Criteria and Enforcement

Authoring Team: Ed Osann

Refer to Document: MWELO Future Revisions – ITP Draft – 11/16/15

Introductory Remarks from Authoring Team Members

- Mr. Osann circulated printed copies of the MWELO Future Revisions matrix posted to the DWR Water Calendar. He thanked Ms. Seapy for her assistance in drafting this piece. He explained that the two tables present a range of potential future MWELO revisions. The recommendations are a compilation of public comment recommendations and ITP recommendations that were not accepted during the July 2015 revision of MWELO. The proposal is such that the ITP would recommend that the recommendations be incorporated in the next round of MWELO revisions, unless the panel identifies any recommendations that should be advanced with more urgency. Additionally, the recommendations indicate the ITP supports regular review of MWELO.
- Should the ITP agree that this recommendation be advanced, the authoring team will draft a background statement to accompany this table.

ITP Discussion

- One member supported including this table in the Final Report recommendations, as ideas presented to DWR and not accepted in July 2015 may be forgotten about otherwise.
- Regarding the topic listed of *hydrozones in the landscape design plan*: concerns were raised that revising the language as proposed in this table would inadvertently prevent landscape designers and architects from experimenting with lowering their water budgets by design. Furthermore, there may be unforeseen complicating factors if certain plants are relabeled year to year. For example, contractors cannot use

Manzanita now in their designs due to a new Water Use Classification of Landscape Species (WUCOLS) classification of this plant type.

- The authoring team acknowledge this concern and agreed to strike this recommendation from inclusion in the table.
- The ITP is interested to learn why several of their suggestions provided to DWR in July were not adopted.
 - **ACTION ITEM:** DWR to provide ITP reasoning on why several of the ITP's suggested revisions to MWELO were not taken up by DWR.
 - The authoring team could insert another column in this table for "DWR feedback."
 - **ACTION ITEM:** JULIE SAARE-EDMONDS to inform Section 6, Recommendation 1 authoring team (Ed Osann) of any suggestions related to future revisions of MWELO she received during her recent statewide outreach endeavors.
- The authoring team will note that future revisions of MWELO should be completed with reference to the schedule of the Green Building Code.
- Ms. Seapy will continue to assist with the development of this recommendation.

I. Section 6: New Landscapes – Smart from the Start

Recommendation #2: State Facility Leadership

Authoring Team: Penny Falcon

This discussion was tabled as author Penny Falcon was ill and unable to attend Day 2 of the ITP meeting.

J. Section 7: Complementary Policies and Regulations

Recommendation #1A: Product Standards for Irrigation Equipment – CONTROLLERS

Authoring Team: Peter Estournes and Ed Osann

Introductory Remarks from Authoring Team Members

- This is a recommendation primarily for the California Energy Commission (CEC) for reasons identified in the background statement. While there has been some progress made with new MWELO requirements, the market for landscape products will continue to be dominated by replacement parts for existing landscapes that are not subject to MWELO. Thus, this recommendation would set a performance standard minimum for irrigation controllers sold in the State. Controllers could either be weather based or sold with timers featuring a range of complexities. MWELO would continue to govern new installations. This recommendation is intended to accommodate owners of older properties.

ITP Discussion

- Why did the authoring team exclude controllers with soil moisture sensors in its recommendation?
 - **Mr. Osann:** There are not yet minimum performance standards established for controllers with soil moisture sensors. When the CEC does determine these performance standards and test methods, this recommendation could be revised.
- Is a controller with a rain shutoff device therefore not required to also be weather-based?
 - Correct, because there are minimum performance standards for these types of devices.
- The ITP should consider, that while requiring controllers to have rain shutoff devices is a step up, is this acceptable enough progress?
 - One consideration is cost; another is taking advantage of existing inventory.
- Many water providers have restricted outdoor watering to 1-2 days. Aged controllers do not have cycle-and-soak functionalities, and property owners are having a difficult time even meeting current mandates.
- One member recommended keeping the functionality of controllers simple such that the average homeowner would be able to program them independently. Therefore, a controller with a rain shutoff device is helpful. Several standard “simple” controllers on the market today do provide day-of-the-week interval watering options.
- If a rain shutoff device were to be manufactured as an add-on to existing controllers, there would need to be test procedures to ensure its functionality.
- Should controllers be required to have non-volatile memory?
 - **Ron Wolfarth, Rain Bird Corporation, Meeting Attendee:** All of Rain Bird’s controllers are equipped with non-volatile memory. However, they are not currently labeled by *WaterSense*.
 - This is a gap that needs to be addressed.
- The CEC attempted to address controller standards about seven years ago, though there was not enough data to draw persuasive conclusions at that time.
- This recommendation should have an overarching theme of treating water applied to soil like a reservoir for plants. Watering should occur at the right place and the right time.
- The comment regarding stand-by power consumption standards refers to the energy nexus. If the ITP comments on this, support of this recommendation will be broadened.
- Is the trend for pricing of weather smart controllers decreasing?
 - **Mr. Wolfarth:** The costs of manufacturing cannot be reduced further. The only way to reduce costs is to develop a controller with less complex features that will still function at a performance level high enough to still obtain the Water Smart label. This can be considered an innovation challenge.

K. Section 7: Complementary Policies and Regulations

Recommendation #1B: Product Standards for Irrigation Equipment – SPRINKLER BODIES

Authoring Team: Peter Estournes and Ed Osann

*Note: Peter Estournes and Ed Osann each developed independent proposals for this recommendation. As the proposals are highly similar, the two will be merged into a single a single proposal with Mr. Estournes and Mr. Osann as co-authors.

Introductory Remarks from Authoring Team Members

- Mr. Estournes remarked that this recommendation suggests phasing out the sale of sprinkler bodies statewide that do not have check valves and pressure regulators, thus eliminating water waste due to inefficient product sales.
- Mr. Osann noted that his proposal called for the CEC to use their authority for this matter, where Mr. Estournes's proposal suggests the use of State legislation. If fellow ITP members believe there is a particular urgency for this change, then the use of legislation is recommended as the emergency rule making for shower heads was completed in 60 days time. He further noted that Mr. Estournes's proposal acknowledges the value of standard covered check valves to prevent leakage. Mr. Osann suggested to merge the two proposals.

ITP Discussion

- The proposal recommends implementation by January of 2017. However, manufactures may not be able to make a change in that short time period.
 - **Mr. Wolfarth:** From the manufacturers' perspective, implementation is more of a question about phasing out existing inventory rather than developing new products. It is preferable to sell through existing inventory. Only a portion of the inventory can be shipped out of state. However, sprinkler bodies are a high-moving item and big-box stores do not typically stock more than a 3-6 months worth of inventory at a time. Please note that controllers will take longer to sell.
- As each sprinkler body breaks for a particular home irrigation system and requires replacement, the overall system functionality would be improved.
- **Mr. Wolfarth:** The estimated price difference per unit between a regular sprinkler body and sprinkler bodies with check valves and integral pressure regulators is \$0.50 to \$1.00*.
 - *Note: Mr. Wolfarth verified this statement several days after the ITP meeting, and issued an updated statement to the meeting facilitator as a correction:
Today, the contractor cost difference between a 'plain' 4 inch pop-up spray head and one with a check valve is about \$1.00 and the contractor cost difference between a 'plain' 4 inch pop-up spray head and one with a pressure regulator is about \$2.00.
 - These costs would be easily recuperated in water savings.
- Metropolitan Water District used to provide an incentive for use of pressure regulated bodies. It was later determined that these bodies are not necessary in all areas Statewide as certain regions are already low-flow areas, i.e. Sacramento.

- There should not be any performance issue with using pressure regulated bodies in low flow areas.
- The target demographic is do-it-yourself (DIY) home owners and their lack of education on the irrigation system components. The standardization of low volume pressure-precision nozzles helps address water waste due to this knowledge gap.
- If this is required, any sprinkler body less than 3” would also need to be phased out as a minimum of 4” is needed to manufacture a body with a pressure regulator in the stem.
- The CEC is looking at landscape irrigation equipment for their next round of rule making, and it would be helpful for the ITP to provide them recommendations. The CEC can consider some of the product differentiation components and revisit the issue on their regular cycle.
- Mr. Osann and Mr. Estournes will work collaboratively to revise this recommendation.

L. Section 7: Complementary Policies and Regulations

Recommendation #2: Permit Required for Irrigation Installation

Authoring Team: Ed Osann

Introductory Remarks from Authoring Team Members

- Mr. Osann noted that language was add to this revised version to clarify that the recommendation applies to large landscapes. Also, the fee for permit section was removed.

ITP Discussion

- Was the purpose of this recommendation to target homes that are not yet landscaped? For example, the new homes that are purchased with dirt lots in the front yard area?
 - **Mr. Osann:** Yes, though most typically these un-landscaped areas will be the backyards. This recommendation would establish a permit requirement that would subsequently trigger MWELo requirements. Thus homes design plans would be inspected, and design would have to be to MWELo standards.
- The estimated cost for a landscape remodel is \$7-10 per square foot. A “large landscape” could average then a \$30,000 remodel project. This value is great enough to warrant a permit.
- The ITP should consider how much water efficiency would be missed if this recommendation only targets “large landscapes.”
 - The landscape size threshold was increased as a result of the last ITP conversation.
- One member would prefer that that builder and contractor be required to landscape and irrigate the front lawns.
 - Regardless, the backyard areas remain a much more common problem.

- For new homes in San Diego County, developers are no longer installing front or backyard landscaping with regularity.
 - Landscaping cannot be completed until the home has a buyer. If the new homeowner does not like what the developer installed, they will tear it out.
- What is meant by *expansion* in subsection (a)?
 - **Mr. Osann:** The intent was to dis-include the small 200 square foot editions to existing landscapes, but target larger expansions, such as ones on the order of 5,000 square feet. This section can be re-written.
 - **Ms. Saare-Edmonds:** New landscapes over 2,500 square feet are covered under MWELo. Also, the addition of a retaining wall or a building will trigger MWELo.
 - The cost of building a system increased 10-20% when MWELo is triggered.
- Requiring a building permit for a residential structure is currently a state requirement. The requirement of a written permit for the installation, expansion, or replacement of any automatic irrigation system for a landscape project would be the trigger for MWELo in this case.
 - This proposal is attempting to capture practitioners that bypass the system because they did not file a permit. The requirement does not presuppose there is something wrong with the design plan, it is meant to address the gap in the MWELo requirements. It is also intended to be complementary to the workforce recommendations.
 - One member commented that he is understanding of the reasons for this recommendation, but expressed concern that adding a level of complexity with a permit would confuse the homeowners and they may choose to ignore the requirements.
- It was suggested to recommend 7,500 square feet minimum as a pilot program. If successful, the minimum square footage could be lowered accordingly.
 - Several ITP members indicated that they would be comfortable with this suggestion.
- Recent surveys indicate that home owners program their own irrigation controllers, and do not ask the “mow and blow” service men to do this on their behalf. Thus via a permit, the homeowner would then have all of the correct programming information needed to properly set their controllers.
- The ITP was already moving in the direction that backyard irrigation systems should be subject to MWELo before the Governor issued the EO.
- There may be an issue with impacting housing affordability by adding on costs associated with requiring a permit. The Green Building Code is also adding costs.
- **Ms. Saare-Edmonds:** DWR recently learned via their outreach program in Santa Barbara that the County put a contingency in place that when a new home is built or purchased, the owner must apply for a permit when they are ready to install landscape. And if they do not file for a permit, they will have this indicated on their records and it will be noticed if they apply for any other type of permit. Furthermore, backyards in this area will be subject to MWELo.

- One member suggested that the entire home development should count towards meeting MWELo requirements.
 - **Ms. Lake:** If the front and back yard areas add together for over 5,000 square feet, a dedicated meter could be required, and the water consumption monitored by the water supplier. Currently non-residential landscaped areas over 5,000 square feet require a dedicated water meter.
- The authoring team should look into what percentage of single family residences this recommendation would apply to, and then extrapolate to estimate how much water savings this would actually bring to the State.
 - This may not be a fair comparison as water use is regionally dependent, not equal across the state. Also large landscapes use the most water and most of the water waste is generated by those residents who have excess income and can afford to pay for the waste.
 - Perhaps the Metrics Working Group could look into this in more detail.

M. Section 7: Complementary Policies and Regulations

Recommendation #3: Retail Water Pricing

Authoring Team: Lisa Maddaus, Jeff Stephenson, Ed Osann*

*Note: Ed Osann replaced William Granger on this section's authoring team.

Introductory Remarks from Authoring Team Members

- Ms. Maddaus informed the Panel that she recently exchanged correspondences with colleague Sanjay Gaur. Mr. Gaur provided the following feedback on the draft recommendation:
 - There should be a local accountability to the rate payers while also meeting water suppliers' requirements and fiscal needs.
 - Financial management requirements should be met with predictability to the extent possible.
 - Cost of services should be fair in regards to the apportionment amongst different rate payers. (For example, people residing at elevation should have a separate pumping fee.)
 - The cost structure of the utility should be supported for the long-term, and meet local conditions with the local elected body accountable for its success.
- Ms. Maddaus then asked the ITP for their thoughts on if they believe this is the appropriate tone to take for this recommendation, if there is indeed a role for State support, if the ITP should provide guidance on funding, etc. She noted that her opinion is that it would be difficult to suggest a legislative proposal around conservation pricing.

ITP Discussion

- The information Ms. Maddaus obtained from Mr. Gaur is good information, but is more appropriate to include in the background section of this recommendation.
- Would it be too prescriptive for the State tell water agencies they must use various specified conservation pricing strategies? Water is a precious resource, and water waste in now a punitive issue as well as a cost issue.
 - Waste can always be penalized, and water suppliers have an obligation to act to end waste. However, this may be a separate issue from the rate structure discussion.
 - The State could call for conservation based rate structured, but local authority may overrule.
 - The ITP can list here considerations that every water supplier should take into account while revising their rate structures. Agencies could be given pricing signals, especially in regard to peak period outdoor water use.
 - This suggestion is akin to what the Gas and Electric companies implement with baseline rates, and then increasing cost for energy consumption beyond an identified threshold.
 - The benefits of conservation pricing can also be discussed in the background section.
- Regarding punitive measures, this again would need to be handled at the local level. Politics also play a large factor here. If an elected official raises their rates and their constituents are upset, they may not be reelected.
 - This is indeed challenging. However, in light of the drought, more electeds are remaining firm on conservation pricing. This in part due to the EO and mandated from the State Water Resources Control Board (SWRCB).
 - The EO directed SWRCB to review water pricing policies, but they have not yet embarked on this task. The ITP could provide their staff with ideas and recommendations.
 - Another is results from limitations imposed by Assembly Bill 218 (AB218). Water agencies are locked into pricing for certain fixed costs.
- The authoring team also discussed challenges with the billing system and a need for a protocol here.
 - As the fixed costs of services increase, the aggregate amount paid by consumers also increases. But there are still steps utilities can take in shaping their rate structures that do not inadvertently underprice high volumes of water used during peak periods. In its proposal, the ITP can describe this issue and make a recommendation to water suppliers to consider the effectiveness of their cost recovery for peak outdoor water demand during their next rate review. This would be framed under the State's overall effort to reduce peak period outdoor water use.
- If the ITP does not find consensus on this recommendation, a discussion on the issue of conservation pricing could be included in an appendix.
- Next Step: The authoring team will work to revise this proposal per discussion.

N. Section 7: Complementary Policies and Regulations

Recommendation #4: Connection Charges

Authoring Team: Lisa Maddaus, Jeff Stephenson, Ed Osann

Introductory Remarks from Authoring Team Members

- Mr. Osann recollected that several meetings again the ITP was given a presentation on the potential for sliding connection charges, and how this program is in effect in Colorado. In California, we are now looking at a process where water suppliers would first identify what portion of their connection charges relate to capacity additions. Then, also at their own initiative, they would describe performance criteria for a new service connection that could be provided at shared cost savings to the customer (e.g. new single family home). This effort could result in as much as \$2,000 reduction in costs for a new home to connect to the system.

ITP Discussion

- Please describe how this suggestion is different than a developer meeting MWELo requirements.
 - This would result in better performance than the minimal MWELo requirements met by the developer.
- One limitation to this proposal is the sizing of meters for fire flow. Those prices vary by size.
- Capacity calculations can be included in this recommendation. However there are other components that will contribute to the size of treatment plant capacity. Less peak demand water usage results in shared savings.
 - Distribution sizing and size of piping is not flexible.
- Other members commented that this is a delicate subject and may be challenging for the ITP to address, as local agencies are very protective of changes in revenue.
- Next Steps: Mr. Osann will prepare a written statement of the issue to include in this recommendation. It will also include a statement that the ITP does not encourage growth in housing development as a result of water savings.

O. Section 7: Complementary Policies and Regulations

Recommendation #5: Plant Labeling

Authoring Team: Ed Osann, Dave Fujino, Peter Estournes

*Note: Recommendations 5a and 5b were combined into a single Recommendation 5 by the authoring team.

Introductory Remarks from Authoring Team Members

- Mr. Estournes remarked that a great deal of research went in to drafting this seemingly simple proposal. There were complications in providing a recommendation as it was determined that one law was superseded by another, making plant labeling requirements *optional*.
- Mr. Osann further noted that the two objectives of the authoring team here were 1) ensure that, at the retail level, the consumer has adequate information on plant water use, and 2) ensuring that plants can be properly identified on job sites. Thus, the operative part of the recommendations apply to changes in both statutes and regulations of the Department of Food and Agriculture Code making plant labeling a requirement rather than an option.

ITP Discussion

- Would January 2017 be enough time for implementation?
 - Mr. Osann expects that it is, and the Department of Food and Agriculture could make this change under their existing authorities.
- It was suggested to expand on the option for commissioning University of California as project leaders to “qualified academic project representative.”

P. Section 7: Complementary Policies and Regulations

Recommendation #6: Outdoor Water Use Reporting

Authoring Team: Lisa Maddaus and Ed Osann

Introductory Remarks from Authoring Team Members

- There has not yet been a draft released of this proposal as yet. It will be complementary to water budget based pricing. In the proposal, the authoring team was considering recognizing the need for more advanced metering infrastructure (AMI). However, there is an issue resulting from the lack of interoperability of AMI equipment itself. The CUWCC recently presented an interoperability standard, and the ITP should help to promote this. Furthermore, there is strong metering manufacturing influence here, along with information trust issues. The data collected by AMI would be extremely useful to water agencies, but data collectors are very proprietary.

ITP Discussion

- Access to water use data provided by AMI would be beneficial to landscape contractors in the sense that they could monitor water use and report to utilities or property owners if they are about to exceed their water budget.
- Once an AMI is purchased, it is very difficult and cost prohibitive to change equipment. This is similar to a tactic employed by the cell phone industry, which ultimately resulted in regulations requiring the interoperability of SIM cards.

- This is a business approach being addressed by American Water, and investor owned holding company. Natural Resources Defense Council is working with them on a strategy to obtain meter accuracy, and also a strategy that will have major utilities only submit request for proposals to AMI manufactures that meet interoperability standards.
- Given this effort, perhaps the state should be prepared to facilitate the transition to AMI in the next 2 to 5 years, particularly for community systems that are not so affluent.
- Ms. Maddaus recently approach a large AMI manufacturing who is willing to explore the possibility of sharing their data with water agencies.
- Perhaps the ITP could direct water agencies, or the State, to require all AMI to meet interoperability standards by a certain date. The standards should be reviewed and agreed to by water agencies.
 - Several members indicated they were supportive of this suggestion
 - Finance recommendations as well as regulatory recommendations should be explored in this proposal.
- Next Steps: Ms. Maddaus will spearhead the drafting of this proposal per ITP discussion. Mr. Osann will provide review and revisions as a member of the authoring team.

Q. Section 7: Complementary Policies and Regulations

Recommendation #7: Upgrades to the California Irrigation Management Information System (CIMIS)

Authoring Team: Dave Fujino and Peter Estournes

Introductory Remarks from Authoring Team Members

- Mr. Estournes informed the ITP that this draft proposal was sent to Bekele Temesgen, Ph.D., DWR, for review. The edits are a result from his feedback.

ITP Discussion

- Did Dr. Temesgen comment on the non-ideal (urban) CIMIS program portion?
 - Dr. Temesgen revised the numerical values included in the background section, and also some discussion on spatial CIMIS. The most important point he concurred with is that the system is not currently working, and it should be fixed.
- How would the ITP recommend sharing information on this program in a user-friendly fashion to persons with no water background?
 - One idea was shared that the local meteorologist could announce the evapotranspiration (ET) value of the week and share a recommendation for appropriate sprinkler setting adjustments.
- Has there been an attempt to estimate the cost of the improvements to be funded by the Sate Legislature?

- No. However one ballpark estimate was around \$5,000 per year per reporting station.
- It would be beneficial for the authoring team to scope out this cost estimate.
- One additional recommendation could be for the Governor to include funding in the State's budget. DWR receives their operating budget via the Governor, and has the ability to draft a budget change proposal and submit this consideration.
- **Ms. Saare-Edmonds:** There was a bill several years ago that attempted to increase funding for CIMIS (around the time AB 1881 was passed).
- **ACTION ITEM:** DWR to determine current fiscal year funding for California Irrigation Management Information System (CIMIS) and if there is a local matching fund or fund partnership (including for items such as equipment, maintenance, staffing, etc.)
 - Note: during the meeting, Ms. Lake researched this inquiry and determined the current annual operating budget of CIMIS is \$1 million.
- **ACTION ITEM:** VICKI LAKE to provide ITP with a dollar amount estimate that would be considered reasonable for the CIMIS program. If possible, also provide ITP with a history of the CIMIS budget, and suggested amounts for on-going costs and costs for a one-time expansion
- This may currently be low priority for the State, but the ITP can elevate it in the context of their vision statement.
- One suggestion was made to re-phrase this recommendation in the form of "Whereas..." to "Therefore..." and draw a correlation to the drought and EO.
- One member is interested in obtaining information on how many individuals use the CIMIS website on a daily or otherwise regular basis. There are about 50,000 registered users currently.
 - Another member responded that the folks who access the data propagate it out to their colleagues and constituents, thus just looking at registered users will not provide an accurate measure of the usefulness of the site.
- The proposal should highlight how the program is mutually beneficial for Agriculture.
- **ACTION ITEM:** JULIE SAARE-EDMONDS to research if there is a State Agriculture panel analogous to the ITP and also determine the current status of the Agriculture Stakeholder Committee (ASC) and the feasibility to address CIMIS use and funding in a future ASC meeting.

R. Section 8: Workforce to Accomplish the Transformation

Authoring Team: Dave Fujino, Peter Estournes, Lisa Maddaus

Introductory Remarks from Authoring Team Members

- Ms. Maddaus noted that she prepared an independent proposal for consideration at this meeting. There are also two proposals that were drafted by Mr. Fujino and Mr. Estournes for discussion at the October ITP webinar, but due to time limitations they

were not reviewed at that time. She commented that in regard to the workforce, capacity building is key. The professionals that are already licensed are generally supportive of MWELO but continuing education is as necessary as training for new landscape professionals. Standards of accreditation are also important, though there is not yet a clear path for this in Appendix D of MWELO.

- Ms. Maddaus was attempting to get to roles, responsibilities, and skill sets needed for the transformation while being understanding of consumer protection issues. Perhaps an apprentice approach for accreditation can be considered, or new criteria for licensing. Tying these efforts back to *WaterSense* programs would be useful, as is promoting the “Save our Water” website. Furthermore, programs and programmatic requirements should fit local area needs; this is critical for the success of practitioners in the long terms.

ITP Discussion

Mr. Ceppos first asked the Panel to discuss the proposal of requiring Continuing Education Units (CEUs) for accredited professionals, and if the Panel was supporting of moving forward with developing a recommendation here.

- One member expressed his support for moving forward with this recommendation, and noted that landscape contractors should be required to obtain CEUs as well. There is also the liability involved with the professional that needs to be addressed. Currently irrigation consultants do not need certifications to complete their work, though they should not be dismissed from continuing education. These consultants are often hired because their services are less expensive than those of a contractor or accredited professional.
- California Landscape Contractors Association (CLCA) conducted a focus group study in 1995 and learned that of consumers who used professional landscape services, nearly none looked for licensing or accreditation. What they were most interested in was a return phone call and a guarantee of the work.
- Has the *WaterSense* landscape requirements been closely reviewed by DWR?
 - **Ms. Saare-Edmonds:** DWR contracts with individuals that are certified by any of the four EPA *WaterSense* programs for water auditing requirements.
 - The Qualified Water Efficient Landscape (QWEL) program is a fairly comprehensive program.
- California has a requirement for certification of electricians based on the individual, not the company. Thus, there is a precedent here if the ITP wants to move in this direction with irrigation consultants.
 - This concept could be addressed at a Task Force level with multiple agencies at the table.
 - **ACTION ITEM: BRIANA SEAPY** to review the California Urban Water Conservation Council’s (CUWCC) records of AB 2717 and extract pieces that are relevant to provide updates to Section 8: Workforce.

- Next Steps: Via a straw poll, all present ITP members agreed to move forward with developing this recommendation (Ms. Falcon was absent for this discussion due to illness).

Mr. Ceppos next asked the Panel to discuss the recommendations for a Statewide clearinghouse and promotions of *WaterSense* certified programs.

- Ms. Maddaus was not envisioning a full proposal around this recommendation, but rather having this discussion embedded in the overall proposal. The *WaterSense* website has a function for these promotions, only it is not disseminated very well.
- Currently via MWELo, beginning January 1, 2106, a certified third party audit is required for inspections of properties. Thus the promotion of this idea is useful.
- Beyond the convening of a stakeholder group to refine the next round of MWELo revisions, does DWR prioritize education to the local community? For example, has DWR produced a guidebook of some variation?
 - **Ms. Lake:** DWR is working to develop a more comprehensive guidance document than the simple one developed during the MWELo adoption process. Furthermore, DWR has been conducting MWELo workshops throughout the state for the last several weeks.
 - **Ms. Saare-Edmonds:** DWR is required to collect reporting from agencies at the end of the year, including their lists of local challenges and educational needs, and other related issues. However, the outreach is, on the whole, “singing to the choir.” There is a large population that does not even realize there has been an ordinance in place for the last 20 years. More resources are needed to reach the general public. DWR is supportive of the ITP moving forward with this concept.
- The City of Riverside will only allow landscape architects to sign off on MWELo projects, however the architects do not install the irrigation. This is an oversight that needs addressing.
- At the local level, are the MWELo requirements for a certified auditor understandable?
 - **Ms. Saare-Edmonds:** The definition of a certified auditor is in the Ordinance, but DWR still received many questions about this.
 - Appendix D was created to address such specifics, however it lists requirements that are unclear or cannot be verified, such as “one must have X amount of soil amendment per X square feet.”
- Regarding next steps, this recommendation may be linked to the development of a guidebook. Perhaps there is partnering that can be done here with DWR staff, and an analysis of the gaps in MWELo Appendix D.
 - DWR and Ms. Seapy are available to assist the authoring team with this portion of the recommendation.

Lastly, the Panel was asked to discuss the recommendation for finding an appropriate state agency to resolve the issues of landscape professionals and designers such that skills are leveraged to the greater good.

- The presumption embedded in this recommendation is that there is a way to leverage the particular skills of various agencies; the intention is not to minimize the role of the

professional. This also ties back to Appendix D of MWELO and the development a guidebook. A guidebook can include certain specifics such as who can what, etc.

- The guidebook can qualify people for a particular service without threatening others while doing so.
- To clarify, the guidebook could explain three types of professionals conducting work: those certified and enrolled in CEU programs, those certified and opting not to seek CEUs, and those who are not certified but still offering services. The ITP will attempt to develop a recommendation that those individuals without accreditation should still be knowledgeable about landscape water use in order to help implement MWELO and broaden the choices for services of consumers.
- Next Steps: Via a straw poll, all present ITP members agreed to move forward with developing this recommendation (Ms. Falcon was absent for this discussion due to illness). The authoring team will work offline on developing recommended target dates for inclusion in this proposal.

The Panel also reviewed the Section 8 proposal submitted for review on October 1, 2015, and discussed C-27 Landscape Contractors' Trade Exam.

- Mr. Estournes reminded colleagues that a previous task of the authoring team was to explore adding questions to the C-27 Trade Exam. He then informed the group that he received an email from a gentleman at CLCA that morning stating the CLCA just completed its occupational analysis of the trade exam, and their normal cycle for updating the exam is every 5 to 6 years. Thus, if the ITP were to make recommended updates at this time, they may be tabled until 2020 or after, unless the ITP chooses to elevate the need for this to the Contractors State Licensing Board (CSLB) or perhaps the Department of Consumer Affairs.
- What is the timeline for the convening the DWR MWELO Stakeholder Group?
 - **Ms. Lake:** DWR anticipates convening this group in February 2016. The process for revising MWELO recommendation is expected to take 2 to 3 years.
 - If the ITP could its recommendations for updating the C-27 trade exam to MWELO, then there is an opportunity to advance these recommendations faster.
- The current components of the C-27 exam are unknown by members of the ITP and DWR. It was coincidence that the most recent exam updates coincided with the EO and updates to MWELO, but it is possible that the exam does not even include questions on MWELO at this time.
 - The Licensing Board does not issue a study guide for the exam, but they do list suggested study material. There are seven topic areas listed, with irrigation and lighting accounting for 18% of the exam. The California Building Code and Electric Code are provided as study material references, but MWELO is not list listed.
- As a reminder, the State formally remains under drought emergency provisions. Therefore, emergency provisions can be applied to any department if need and applicability are demonstrated. There is the additional possibility that another EO could be issued if drought conditions persist.

- If the ITP feels that the C-27 is not currently adequate to prepare professionals for their responsibilities, the ITP could recommend that the Department of Consumer Affairs direct the Licensing Board to conduct an out-of-cycle revision to the exam. Simultaneously, the ITP could prepare a parallel recommendation to the Legislature directing the Department of Consumer Affairs to complete this task by a certain date.
- **ACTION ITEM:** DWR to determine if most recent MWELo revisions are included in the C-27 Trade Exam and obtain specifics of their tri-annual exam update schedule and how information can be added to exam content. DWR to assess if Department of Consumer Affairs is subject to expedited actions based on the Drought Emergency Status proclaimed by the Governor in January 2014
- Next Steps: Once the information on the C-27 exam is obtained by DWR, the authoring team will revise this component of the Section 8 recommendation accordingly.

S. Section 9: Public Perceptions and Social Norms

Recommendation #1: Defining Professionals, recognition of examples of low water use landscapes and a sustainable statewide approach to outreach and information.

Authoring Team: William Granger, Jeff Stephenson, Peter Estournes

Introductory Remarks from Authoring Team Members

- This recommendation was presented in October. The authoring team was instructed to include narrative on the various awards and recognition programs. This iteration reflects that feedback. It also discusses resources that should be available on the local level, and the recommendation the WUCOLS should be presentable and easy to use.
- Mr. Estournes noted there is language step #9 about outreach to the realtor community. This may be an opportunity to tie back to the discussion around Section 5, Recommendation 1.

ITP Discussion

- One member expressed he does not feel the ITP is yet in a position to make the specific recommendation to convene a stakeholder group.
- Is the CUWCC engaged in a landscape marketing campaign? If so, this campaign might cover several of the items suggested in the proposal.
 - **Ms. Seapy:** The CUWCC's campaign is at a high-level of development. The organization is engaging in market research and identifying data gaps. They are not making specific recommendations at this time. The extension of funding from DWR to develop this program further is uncertain. However, landscape market transformation remains a long term goal of the Council. Also of note, the Council is undergoing strategic programmatic changes that will take place next calendar year.
- One key to this proposal is knowing what sources of credible information exist for home and property owners. A program akin to the EPA Energy Star program could be

developed, with CalNevada, the Association of California Water Agencies (ACWA) or DWR serving the role of the EPA. The ITP could identify an organization to take on the responsibility of being a respected source of information.

- The State’s outreach program is now “Save Our Water.” Could this program be made more specific to include key aspects of horticultural services?
 - **Ms. Lake:** “Save Our Water” is run by ACWA with DWR as a funding partner.
 - The ITP cannot require ACWA to include something like this, but could recommend that they do.
 - **Ms. Saare-Edmonds:** “Save our Water” has a webpage called *Real People, Real Savings* where residents voluntarily upload photos of their landscape transformations.
- The logo of “Save Our Water” is a hand on a water faucet. This provides the perception that everyone is a water manager, and has a personal responsibility for water savings.
- A suggestion was made for the authoring team to review the components of the Save Our Water program and determine what components are most important to be made user-friendly and publically accessible. They could also review the program for pieces that are missing (i.e. those suggestions listed in the draft proposal). It could then be proposed that these specific components are advanced by ACWA.
 - It should be clarified who the target audience is, in this case.
- Water agencies all have their own local programs and know best how to disseminate information to their clientele. Water agencies could tailor the delivery of the “Save Our Water” information for local needs. The material needs be flexible such that the packaging can be made local.
 - While a good concept, it should be recognized that not all residents like their local utility. Also, smaller agencies may not have the budget to do something like this.
- One member summarized: It has been identified that there is a gap in information that can and should be made available to property owners. The develop of marketing material to convey this information is needed, and can be done via the established recognizable brand of “Save Our Water.” The partners of this program, ACWA and DWR, can be urged by the ITP to being working on marketing efforts.
- Next Steps: the authoring team will work to revise this recommendation per the ITP discussion.

T. Section 10: Research Needs and Support

Authoring Team: Dave Fujino, Peter Estournes, Lisa Maddaus

Introductory Remarks from Authoring Team Members

- Mr. Fujino noted this proposal was not revised since the October webinar, although the authoring team did receive feedback about including “Documentation” in the section

title, and to include a listing of energy manuals and other procedure manuals in the proposal body.

- Ms. Maddaus remains interested in expanding upon the list of research topics, and including numeric references on peak energy use.
- **ACTION ITEM: LISA MADDAUS** to expand on her suggested list of recommendations (bulleted list) in Section 10 and provide her suggestions to other members of the authoring team.

ITP Discussion

- The CUWCC has a bibliography for research they have done on various topics. This could be a useful reference for listing procedure manuals in the proposal body.
 - One member envisions this component to be similar to the Database for Energy Efficient Resources (DEER) utilized by the California Public Utilities Commission.
- Years ago UC Davis had funds as part of contract with DWR to conduct a literature review on research around landscape water conservation. It was never conducted because MWELO was implemented around the same time. This is why the background section states little to know research has been conducted in the last five years.
 - **Ms. Saare-Edmonds:** The DWR staff who worked on defining ET conducted a minimal review of research.
 - Agriculture Water Use Efficiency (AWUE) program recently finished a cursory literature scan on opportunities for landscape water conservation, though their efforts are national. The next phase of their effort involves identifying data gaps and where research should be focused.
 - **ACTION ITEM: JEFF STEPHENSON** to look in to areas that Agriculture Water Use Efficiency (AWUE) could focus on during “Phase 2” of their national research effort on opportunities for landscape water conservation to include in Section 10
- If a stakeholder is convened as part of this recommendation, it does not seem their role would be longstanding. Rather their services may only be required for a few conversations.
 - Correct. A list of research topics could be developed, and the stakeholder group could then review and prioritize that list.
 - There needs to be a process or criteria for prioritizing research needs.
- It would be helpful if there was more specific structure provided in this recommendation beyond the convening of stakeholders, as this recommendation is calling for the identification of research needs and then assurance that the research will be carried out. For example, the authoring team could discuss cost-sharing in this proposal. Basic research is more likely to be funded by the government, and applied research is more likely to be funded by private entities and/or NGOs.
 - Research may, realistically, not be science based because of the difficulty of achieving replication in research sites and conditions. However research could provide a demonstration point of what the maximum applied water allowance (MAWA) would be for a particular region.

- UC Davis has approximately eight proposals on basic research programs submitted to DWR, per their solicitation, and have not received a response on any of them to date.
 - This history and subsequent inaction of the Department should be added to the proposal's background section. There is currently no program to provide funding for sustainable and long-term research programs.
 - Another member agreed that a research program, house with the landscape conservation efforts of the state and funded in perpetuity, is needed.
- One member commented that he feels the establishment of stakeholder group is important to validate the research priorities, and to establish a collective process for moving forward in looking at the water use of the State as a whole.
- Another option suggested was the ITP group and/or prioritize the current list of 18 bullets under the research recommendations, and perhaps explain what DWR should fund the prioritized research needs.
 - Several members indicated they were amenable to this idea.
 - One member suggested the authoring team propose an example for the structure and modeling of a sustained research program, e.g. the Public Interest Energy Research (PIER) program run by the California Energy Commission. He also suggested organizing the 18 bullets under topics of agronomic issues, hardware issues, programmatic issues, and measurement and verification manuals.
- **ACTION ITEM: LISA MADDAUS, PETER ESTOURNES and DAVE FUJINO** (Section 10 Authoring Team) to characterize the list of 18 recommendations into overarching topics and sub-topics
- The State suffers from not updating measurement and verification manuals with enough frequency. Programs being implemented in the field will be evaluated against various protocols outlined in these manuals.
- Generally, research needs should be characterized first.
 - The Council has an established research and education committee. They may have a model the ITP can look to build upon and enhance.
- The timing for this recommendation is good, as many entities such as the energy commission and public utilities are researching topics that connect to the landscape and water use.
- Next Steps: The authoring team will revise this proposal per discussion.

5. PUBLIC COMMENT

Public comment periods were provided by the meeting facilitator two different periods during each day of the ITP meeting. For purposes of this meeting summary, all public comments are compiled below, with specific sections and recommendations referenced where applicable.

- **Public Comment:**

- Regarding Section 7, Recommendation #2: Over-the-counter type permits do not require the permittee to go to a physical location to access the form. Landscape-related permits are available for access and submission online. For major cities in Southern California, a permit is required for even small activities such as keeping a dumpster outside of your house for removing of turf. Thus, homeowners will likely have to go through a permit process when installing landscape as it is; this requirement does not seem onerous to the homeowner.
- **Public Comment:**
 - Regarding Section 7, Recommendation #1B: Mr. Wolfarth clarified that he cannot speak for his completion in stating that January 2017 would provide ample time for implementation.
 - Regarding Section 7, Recommendation #7: the ITP should consider utilizing the weather station that are currently installed as opposed to requiring the State to install new station. Instead, the State may pay for cost of maintenance, or transfer the maintenance requirements to the existing owner. These existing weather stations may not be situated perfectly per scientific standards, but they are better than having no stations at all. Scientific standards currently require a radius of 600 feet of flat, unobstructed land surrounding the station.
 - **Mr. Estournes:** When he approached this idea with CIMIS staff, they explained their requirements for having stations standardized and here fairly resistant to the idea. He did also suggest renting an area on a school or golf course for installation of stations, also.
 - **Mr. Osann:** It seems that if CIMIS's concern is having none-standard techniques for data collection between stations, then station operators could enter into a data quality agreement.
- **Public Comment:**
 - Regarding Section 5, Recommendation #1: The ITP may consider looking into recent stormwater measures and how they could be impacting landscape design. This public member also expressed her support for issuing landscape inspections as part of home sales, citing that 50% of water for any given home property is used for landscaping. She further commented on the point of California friendly landscaping contributing to the resale value of the home, and noted she was quoted a \$100,000 premium for her native landscaping that does not require an irrigation system. These measures would help to eliminate the social idea of turf as "curb appeal."
 - Regarding Section 8: The definition of CEU emphasizes *continuing*, meaning there must be an initial education/certification program required. The more the ITP and DWR can define what a California landscape should be, the more they will be able to impact changes to the existing landscape.
- **Public Comment:**

- Regarding Section 5, Recommendation 1: There is a need to have landscaping inspectors inspect homes prior to resale. In the same vain of market transformation, this effort should look to groups who can help conserve water beyond minimum needs of a water budget. Landscape designers should be allowed to submit MWELO documentation for residential properties along with landscape contractors.
- **Public Comment:**
 - Regarding Section 5, Recommendation 1: An inspection for a prospective homebuyer is a reasonable requirement. The ITP could also consider the requirement of installing a sub meter for residential irrigation systems upon the transfer of sale of an older home. A water budget should then be set in the same fashion done for MWELO, and the homeowner should decide how to meet this budget.
 - **Mr. Osann:** The work being offered by services such as *Water Smart* may be doing this already, and not just at the time of sale.
 - Agreed, however these services are voluntary and the ITP has the opportunity now to make them required.
 - Regarding Section 8: Are the individual certifications referenced broad enough for the State to deem the minimum standards are being met to get accomplish the work?
- **Public Comment:**
 - Regarding Section 8: In looking at these processes, it will be important that the agencies responsible for administering these programs be brought into the discussions at the beginning. Also, there will still need to be an enforcement of these requirements in the marketplace. Once a person receives a certificate, they should be able to demonstrate that it is active. Fiscal issues will also need to be considered.
- **Public Comment:** Would AMI interoperability standards apply to sub-meters as well as the primary meters?
 - Mr. Granger: Sub-meters are not necessary for properties outfitted with AMI as data is collected from them hourly.

6. NEXT STEPS & CLOSING REMARKS

Mr. Ceppos confirmed the need for a mid-December meeting in order for the ITP to advance their final report in a timely manner. The ITP will also meet in January 2016 for this purpose, with the expectation that the public comment draft will be prepared at that time. Public comments would then be considered by the ITP, and they would make their final recommendations in early March, 2016.

ACTION ITEM: MEAGAN WYLIE to poll ITP members for December, January, and February availability and confirm next meeting date(s) with the Planning Team as soon as possible.

ACTION ITEM: ITP AUTHORIZING TEAMS to revise their respective Final Report Sections in advance of December meeting.

Ms. Seapy's availability to assist the ITP with report content will terminate at the end of this calendar year. Therefore, she will no longer be tasked with compiling the final report on behalf of the ITP. Instead she will continue to assist Mr. Osann in revising various sections of the report as discussed at the meeting.

Mr. Ceppos again thanked the ITP for their work on drafting the various report sections before adjourning the meeting.

7. ATTENDANCE

Day 1 – November 5, 2015

ITP Members

Dave Fujino
Jeff Stephenson
Lisa Maddaus
Penny Falcon
Peter Estournes
William Granger

Staff

Dave Ceppos, CCP
Julie Saare-Edmonds, DWR
Meagan Wylie, CCP
Vicki Lake, DWR

Public Attendees

Amelia Lima

Bob Raymer
Briana Seapy
Don Bently
Ed Pike
Greg Weber
Jim
Jon Wreschinsky
Jonathan
Matt McKinney
Mike Scheele
Pamela Berstler
Peter Brostrom
Ron Wolfarth
Russell Acherman

Day 2 – November 6, 2015

ITP Members

Dave Fujino
Jeff Stephenson
Lisa Maddaus
Peter Estournes
William Granger

Staff

Dave Ceppos, CCP
Julie Saare-Edmonds, DWR
Meagan Wylie, CCP
Vicki Lake, DWR

Public Attendees

Amelia Lima
Brent Mecham
Briana Seapy
Dawn Koepke
Jon Wreschinsky
Jonathan
Matt McKinney
Pamela Berstler
Ron Wolfarth